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IS 2747 (1990): Taximeters - Performance Requirements [PGD
26: Weights and Measures]



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“Knowledge is such a treasure which cannot be stolen”

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IS 2747 : 1990
REAFFIRMED

Indian Standard
**TAXIMETERS — PERFORMANCE
REQUIREMENTS**
(First Revision)

भारतीय मानक
टैक्सीमीटर — कार्यकारिता अपेक्षाएँ
(पहला पुनरीक्षण)

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FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards on 18 January 1990, after the draft finalized by the Commercial Weights and Measures Sectional Committee had been approved by the Light Mechanical Engineering Division Council.

This standard lays down performance requirements of taximeters to ensure that the taximeters register correct fare. This standard is intended chiefly to cover the technical provisions relating to taximeters, and it does not include all the necessary provisions of a contract.

This standard was first published in 1964. In this revision, the performance requirements of both mechanical and electronic type taximeters have been covered and is largely based on the specification for taximeters of mechanical and electronic type formulated by the Weights and Measures Unit of the Department of Civil Supplies, Government of India.

In addition, assistance has been derived from the following:

- a) International Organization for Legal Metrology (OIML) Recommendation No. 21 Taximeters.
- b) Ministerial order regarding the 'Approval of model and installation of taximeters', Ministry of Economic Affairs, Belgium.
- c) Regulations on Taximeters, Commissioner of Police, London.
- d) Clifford, A.N. Taximeters testing at NPL. Metrology Division, National Physical Laboratory, Teddington (UK).
- e) Handbook 44 — Specification, tolerances and regulations for commercial weighing and measuring devices. US Department of Commerce, National Bureau of Standards.
- f) Handbook 45 — Testing of measuring equipment—A manual for weights and measures officials, US Department of Commerce, National Bureau of Standards.

AMENDMENT NO. 1 OCTOBER 2003
TO
IS 2747 : 1990 TAXIMETERS — PERFORMANCE
REQUIREMENTS
(First Revision)

(*Page 4, clause 6.1.0, last sentence*) — Substitute the following for the existing:

‘Brief outlines of approval test are given in **6.1.1** to **6.1.12**.

[*Page 6, clause 6.1.10.2(c), line 4*] — Substitute ‘data’ for ‘date’.

(*Page 6, clauses 6.1.11*) — Substitute the following for the existing:

‘6.1.10.3 Test procedure

- a) The distance test of a taximeter, whether (a), (b) or (c) of **6.1.10.2** shall include at least duplicate runs of sufficient length to cover at least the third money drop or 1 km, whichever is greater, and shall be at a speed less than 40 km/h travelled by the vehicle in normal service.
- b) If the taximeter is equipped with a mechanism through which charges are made for time intervals, a test shall be conducted to determine whether there is interference between the time and distance mechanism. During this test, the vehicle is operated at a speed of 3 or 4 km/h faster than the changeover speed.’

(*Page 6, clause 5.1.12*) — Substitute ‘**6.1.11**’ for ‘**5.1.12**’.

(*Page 6, clause 6.3*) — Renumber ‘**6.3**’ as ‘**6.1.12**’.

(BP 26)

Indian Standard

TAXIMETERS — PERFORMANCE REQUIREMENTS

(First Revision)

1 SCOPE

1.1 This standard covers the performance requirements for distance-cum-time taximeters both of mechanical and electronic type, to determine charges for hire of carriages plying for public hire.

2 REFERENCES

<i>IS No.</i>	<i>Title</i>
10236	Procedure for basic climatic and durability test for optical instruments
(Part 2) : 1982	Part 2 Dry heat test
(Part 4) : 1982	Part 4 Damp heat test
(Part 10) : 1985	Part 10 Bump test
(Part 11) : 1985	Part 11 Vibration test

3 TERMINOLOGY

For the purpose of this standard, the following definitions shall apply.

3.1 Adopting Device

A special device which allows the values of K (see 3.22) and w (see 3.23) to be adjusted in such a way that the maximum permissible error laid down in 7.4 shall not be exceeded.

3.2 Bench Test

The test of a taximeter independent of the taxi cab.

3.2.1 Distance Test

The test to check the equivalent distance intervals, without the effect of time, between money drops.

3.2.2 Time Test

The test to check only the time intervals between money drops.

3.3 Cleared

A taximeter is cleared when no indication of fare is shown and when all parts are in the positions in which they are designed to be, when the vehicle on which the taximeter is installed is not engaged by a passenger.

3.4 Competent Authority

Authority competent to formulate and enforce rules and regulations in connection with the use and testing of taximeters.

3.5 Distance or Time Intervals

The intervals corresponding to money drops (see 3.13) following the initial money drop (see 3.14).

3.6 Distance or Time Interval, Initial

The distance or the time interval corresponding to the initial money drop.

3.7 Effective Cab Wheel Circumference

The distance covered by the cab driven wheel with correctly inflated tyre in one complete revolution when a motor cab with a full complement of passengers is pushed forward in a straight line.

3.8 Extras

Charges to be paid by the hirer in addition to the fare for transportation of chargeable luggage.

3.9 Face

That side of a taximeter on which fare is indicated.

3.10 Fare

That portion of the charge for the hire of a public vehicle, that is, computed by a taximeter through the operation of distance and time mechanism.

3.11 Flag

A lever arm or any other device by which the operating condition of a taximeter is controlled.

3.12 Gear Box

An assembly of gears to permit adjustments for different tyre sizes, transmission ratios and the like.

3.13 Money Drop

An increment in the fare indication.

3.14 Money Drop, Initial

The fare indication following the depression of the flag from FOR HIRE to the HIRED position.

3.15 Pick-Up

Fare is calculated by the basic rate for the time elapsed or alternatively, by the basic rate for distance travelled according as the speed of the vehicle is below or above the speed of agreement of basic rates. The arrangement of transfer of calculation between the two basic rates is sometimes called the pick-up and sometimes the differential.

3.16 Prescribed

In the standard, where the word 'prescribed' is used, it shall mean prescribed by competent authority.

3.17 Road Test

The test over a measured course of a complete taximeter assembly when installed on the motor cab, the mechanism being actuated as a result of the motor cab travel.

3.18 Speed of Agreement of Basic Rates

The speed at which the basic distance and the basic time rates correspond, that is, a meter operated at the speed of agreement for basic rates will show a money drop of distance travelled which is exactly the same as for the time elapsed.

Example (Only for illustration) :

Basic rate for time : 10 paise per 5 minutes
Basic rate for distance : 10 paise per 1/3 km

The basic rates agree when a distance of 1/3 km is travelled in 5 minutes, that is, the speed of the vehicle is 4 km per hour.

3.19 Tariff, Basic Distance

The tariff for distance corresponding to all the intervals except the initial interval.

3.20 Tariff, Basic Time

The tariff for time corresponding to all the intervals except the initial interval.

3.21 Taximeter

A device that computes continuously and indicates at any moment of the journey, the charges payable by the passenger of the public vehicles as a function of the distance travelled, and below a certain speed, of the length of time occupied, independent of supplementary charges, according to prescribed rates tariff.

3.22 Taximeter Constant, K

The constant, K , of a taximeter is a characteristic quantity showing the type and number of signals which the instrument must receive in order to indicate correctly a covered distance of 1 km.

Constant K , is expressed:

- a) in 'revolutions per indicated kilometre'

(rev/km) if the information relating to the distance covered by the vehicle is introduced into the taximeter in the form of a number of revolutions of its main shaft (drive shaft at entry point to the instrument).

- b) in 'impulse per indicated kilometre' (imp/km) if this information is introduced in the form of electrical signals.

3.22.1 According to the construction of the instrument, the constant K , may be fixed or adjustable by fixed amounts.

3.23 Vehicle Characteristic Coefficient, w

The characteristic coefficient, w , of a vehicle is a quantity indicating the type and the number of signals intended to drive the taximeter which appear at the component provided for this purpose, for a distance travelled of 1 km.

Coefficient w , is expressed:

- a) in 'revolutions per kilometre travelled' (rev/km), or
- b) in 'impulse per kilometre travelled' (imp/km) depending on whether the information relating to the distance travelled by the vehicle appears in the form of a number of revolutions of the component driving the taximeter or in the form of electrical signals.

3.23.1 Coefficient varies as a function of several factors, principally the wear and the pressure of the tyres, the load carried by the vehicle, the conditions under which the vehicle makes a journey. It shall be measured under the standard test conditions for the vehicle.

4 GENERAL

4.1 The following units of measurement shall be used for taximeters (a) the metre or kilometre for distance and (b) the second, minute or hour for time.

4.2 The fare for the journey shall be expressed in the legal monetary units.

5 CONSTRUCTIONAL AND OPERATIONAL REQUIREMENTS

5.1 The taximeter shall be robust and well constructed. The functional of the taximeter shall be made of materials which guarantee adequate strength and stability.

5.2 The casing of the taximeter and that of the adapting device as well as the covers of transmission devices shall be so made that the essential parts of mechanism are out of reach from outside and are protected against dust and humidity.

5.2.1 Access to devices for adjustment shall be made impossible without damage to the sealing arrangements.

5.3 In the case of electronic taximeters, the electronic devices which calculate the charges payable shall operate without failure, and at any time, it shall be possible to check their correct operation.

5.3.1 This may be achieved by means of a special control programme which is automatic or manually activated.

5.3.2 Any fault identified by this control programme shall be clearly indicated.

5.4 Measuring, Calculating Devices

5.4.1 Except when the taximeter is being cleared, indications of fare shall be clearly visible at all times.

5.4.2 The taximeter shall be so designed that it calculates and indicates the fare for the journey solely on the basis of:

- a) distance travelled when the vehicle moves at a speed higher than the changeover speed, or
- b) period of time when the vehicle moves at a speed less than the changeover speed. The changeover speed is attained by dividing the time tariff by the distance tariff, and may vary according to the variation in these tariffs.

5.4.3 The distance drive shall be made through the medium of the wheels, and the reverse motion shall not cause a reduction in the fare or distance shown.

5.4.4 The time drive shall be obtained by a mechanical or electronic movement of the clockwork which can be activated only by operating the mechanism of the taximeter.

5.4.5 If the clockwork mechanism is operated by manual winding, it shall work for at least 8 hours without rewinding or for at least two hours if rewinding is necessary at each manual operation before it is set in operation.

5.4.6 The electronic clockwork shall be capable of functioning at any time.

5.4.7 During the distance drive, the first increment of fare indication (money drop) shall occur after travelling the initial distance. The subsequent money drops shall correspond to equal distance between each of them.

5.4.8 During the time drive, the first increment of fare indication (money drop) shall occur after the initial time interval. The subsequent money drops shall correspond to equal time intervals between each of them.

5.4.9 Without change of drive, the ratio between the initial distance and the subsequent distance shall be the same as the ratio between the initial time and the subsequent time intervals.

5.4.10 An adapting device, situated inside or outside the instrument case, shall allow the adaptation of taximeter constant to the characteristic coefficient of the vehicle on which it is mounted with an accuracy such that the maximum permissible errors laid down in 7.4 shall not be exceeded.

5.4.11 The taximeter shall be so designed as to facilitate necessary adjustment of the calculating device for making it conform the changes in the tariff.

5.4.12 If the number of tariffs provided on the instrument is greater than the number of tariffs in force, the taximeter shall, in the superfluous positions, calculate and indicate a fare based on one of the authorized tariffs.

5.5 Control Mechanism

5.5.1 The mechanism of the taximeter shall be capable of being set in motion after having been engaged by a single control mechanism.

5.5.2 For the electronic taximeter, this mechanism may consist of various push buttons and switches for special operations.

5.5.3 The mechanism of the taximeter shall be capable of being set in motion in one of the positions indicated in 5.5.4, 5.5.5 and 5.5.6.

5.5.4 Free Position (for Hire)

In this position:

- a) There shall be no indication of the fare to be paid, or this indication shall be equal to zero or to a value of the initial money drop but in the latter case, the indication shall be covered by a shutter;
- b) The distance drive and the time drive shall not operate the device which indicates the fare to be paid;
- c) The totalizer indicating the total distance travelled shall remain turned off; and
- d) The window through which possible extras are seen shall be blank or indicate 'zero'.

5.5.5 Working Position (Hired)

In this position, the time and distance drives and the extras indicator, if any, shall be engaged.

5.5.6 'To Pay' Position

In this position which shows the final total fare due from the passenger for the journey excluding any extras, the time drive shall be disconnected and the distance drive shall remain connected to the authorized tariff.

In case of electronic taximeters, it is permitted, by operating a special button in the 'To Pay' position, to add any possible extras to the fare, and to indicate on the indicator, the total fare payable by the passenger. When this button is released, the two amounts shall be indicated separately.

5.5.7 The control mechanism, shall be so designed that starting from 'Free' position, the taximeter can be set successively in 'Working' position and 'To Pay' position.

5.5.8 The operation of the control mechanism is subject to the following restrictions:

- a) Starting from the 'Working' position, it shall not be possible to put the taximeter back in the 'Free' position without going through the 'To Pay' position.
- b) Starting from the 'To Pay' position, it shall not be possible to put the taximeter in the 'Working' position without going through the 'Free' position.

5.6 Indicating Device

5.6.1 The 'Reading Face' of the taximeter shall be so designed that the indications of interest to the passenger can be easily read by him.

5.6.2 The fare to be paid, excluding possible extras, shall be ascertained from the fare indicator by simple reading of an indication in aligned figures having a minimum height of 10 mm.

5.6.2.1 When electronic indicating elements are used, it shall be possible to check the operation of the indication.

5.6.3 As soon as the instrument is put into operation from the 'Free' position by operating the control mechanism, the shutter, if any, covering the indication of fare to be paid, shall retract and a fixed amount corresponding to the initial money drop shall appear.

5.6.3.1 The fare indicator shall thereafter advance by successive steps of a constant monetary value as soon as the amount of the initial money drop has been used up.

5.6.4 The taximeter shall be provided with a device indicating at any moment on the reading face, the engaged working position.

5.6.5 The taximeter shall have a means for illuminating the readings appearing on the reading face and it shall be possible to replace the light bulbs without opening the sealed parts of the meter.

5.6.5.1 In the case of self-luminous indications, no additional illumination is required if readability of indications of interest to the passenger is ensured.

5.7 Optional Additional Devices

5.7.1 The taximeter may in addition be provided with supplementary devices such as:

- a) an indicator of extras independent of the fare indicator mentioned in 5.6.2 and automatically returning to zero in the 'Free' position. In the 'To Pay' position, it is permitted to add the extras to the fare by operating a pushbutton.
- b) totalizers which give, in aligned figures having a minimum height of 4 mm indications of:
 - 1) the total distance travelled by the vehicle,
 - 2) the total distance travelled on hire,
 - 3) the total number of 'engagement', and
 - 4) the total number of money drops.

The totalizers may also be non-erasable electronic memories which can be recalled and indicated in the 'Free' position of the taximeter. The date in the memory shall be protected for at least 72 hours after a power supply failure.

- c) a device detecting the presence of a passenger (pressure sensor).

6 TESTS

6.0 Two types of tests, namely, type approval tests and periodical tests have been prescribed for the taximeters.

6.1 Type Approval Test

6.1.0 Exhaustive tests are carried on new types of taximeters or taximeters made by new manufacturers to determine their suitability. Brief outlines of approval tests are given in 6.1.1 to 6.1.11.

6.1.1 Two taximeters which would be known as 'Pattern Meters' shall be sent to the competent authority and shall be accompanied by detailed description with drawings. A working specimen of the flexible cable by which the meter shall be driven, shall also be forwarded along with the meters for test.

6.1.2 The pattern meters shall be subjected to exhaustive tests. At least one of the meters shall be opened and such parts dismantled as may be considered necessary for studying single movements, their material and design.

6.1.3 Such parts as are subject to repeated impact shall be studied not only for their ability to stand wear and tear but also to ensure that the parts taking impact have no points of stress concentration likely to lead to ultimate failure. Consideration shall be given to the mechanical consequences of hypothetical failures of any moving part that would be caused by a seizure want of lubrication or misplacement from any other cause.

6.1.4 Fare Indications

At all stages, the money drops on the dial shall make instant, accurate and complete change from one figure to the next. The error due to engaging and disengaging of the mechanism shall be within the tolerance limits specified in 7.

6.1.5 Flag

When the flag is unlocked from the 'For Hire' position, it should be checked that the last recorded fare has been cleared and the meter is properly re-set at the 'Zero' position. There shall be no possibility of the fare recording caught either partly cleared or on a rebound. It shall be checked that any reverse movement between the ratchet lock and the next does not make improper recording or any kind of injury possible. It should be properly seen that no possibility exists for tampering by improper use of the flag. From the moment the flag is put down, the fare should be recorded and the figures expressing it shall appear on the face.

6.1.6 Distance Drive

There will always be a critical point in a fare recording mechanism when the next fare increment is almost due to be recorded. If the journey ends at the critical point which is seldom possible, an impact, such as, slamming of the car door could cause the next increment to be recorded. A jerky drive should be arranged in the test to check that no fault develops in the meter mechanism. Several tests shall be made to check that the possibility of premature recording of an increment is kept at a minimum.

6.1.7 Before and after the road test (see 6.1.10), the meter shall be subjected to the bench test specified in 6.1.8.

6.1.8 Bench Test

The test shall be performed on taximeter fitted with an appropriate and reliable gear box.

6.1.8.1 Apparatus

- a) *Test bench for taximeters*, a device employing an electric motor to turn the taximeter spindle shall be used. This device shall also be capable of being rotated by hand. Brackets shall be provided for convenient mounting of the taximeters.
- b) *Counter*, shall be of such a design as to register one-tenth of a spindle revolution.

6.1.8.2 Procedure

The test shall be carried out in two stages called 'Short haul' and 'Long haul'.

- a) *Short haul test* — With the flag in the 'Stopped' position, the meter is driven for the equivalent of a distance of two or three kilometres. The number of input revolutions for each money drop are read from the counter and compared with the calculated number.
- b) *Long haul test* — The flag shall be in the 'Stopped' position. The taximeter shall be operated continually for an interval corresponding to not less than 60 kilometres. Throughout the test, the taximeter shall be kept under observation so that any sticking of the money drop, any failure of the money drop to occur in the proper sequence, any incorrect alignment of figures or any other abnormal condition may be discovered which would lead to rejection of the taximeter.

6.1.8.3 Fare indications

These shall comply with the provisions of 6.1.4.

6.1.9 Time Test

6.1.9.1 Apparatus

This test requires that observations shall be made to the nearest second. A stop watch or a desk type of interval timer which may be started from and re-set to zero as desired, shall be used.

6.1.9.2 Procedure

The time test consists of timing the intervals between money drops with the flag in the 'Hired' position and shall be conveniently divided into two tests, namely, individual interval test, and the long interval test.

- a) *Individual interval test* — The individual interval test shall be initiated by depressing the taximeter flag to the 'Hired' position and simultaneously starting the stop watch or the timer. At the instant each money

drop occurs, the elapsed time to the nearest second shall be recorded. The watch or the timer shall not be stopped but shall be allowed to continue running throughout the entire period of the time test. The test shall be continued for a minimum of one hour.

- b) *Long interval test* — The taximeter shall not be cleared at the conclusion of the separate interval test nor shall the stop watch or the timer be stopped. Operation shall be continued for at least one hour or more without intervening observations. When the test is to be concluded, the time at which the money drop occurs shall be observed and recorded after which the taximeter shall be cleared.

6.1.10 Road Test

6.1.10.1 Standard conditions for test

Taximeters shall be tested for road test by using any one of the methods specified in 6.1.10.2 under the following 'standard test conditions':

- a) The load carried by the vehicle shall correspond to the weight of the number of adult persons including the driver authorized by the competent authority from time to time;
- b) The tyres shall be inflated to the pressure prescribed by the vehicle manufacturer and shall be in good condition (such as, conforming to the road safety rules); and
- c) The vehicle shall move, under its own power, on level ground, in a straight line, at a speed less than 40 km/h.

6.1.10.2 Test method

- a) *Road test*—A road test consists of driving the vehicles over a precisely measured road course.
- b) *Fifth wheel test*—This test consists of driving the vehicle over any reasonable road course and determining the distance actually travelled through the use of a mechanism known as 'fifth wheel', that is, attached to the vehicle and that independently measures and indicates the distance.
- c) *Simulated road test*—This test consists of determining the distance travelled by computation from rolling circumference and wheel turn date.

6.1.11 Test Procedure

6.1.11.1 The distance test of a taximeter, whether (a), (b) or (c) of 6.1.10.2 shall include at least

duplicate runs of sufficient length to cover at least the third money drop or one km, whichever is greater, and shall be at a speed approximating the average speed travelled by the vehicle in normal service.

6.1.11.2 If the taximeter is equipped with a mechanism through which charges are made for time intervals a test shall be conducted to determine whether there is interference between the time and distance mechanisms. During this test, the vehicle is operated at a speed of 3 or 4 km/h faster than the changeover speed.

5.1.12 Endurance Test

A sample of taximeter picked up at random from production shall be first checked for conformity to the requirements laid down in 5 and if it complies with these requirements, it should be run continuously for not less than 500 hours. After this test, the meter and its component parts shall not show any damage or defects and all the parts shall be satisfactory; necessary checks shall be made for this purpose. Taximeter shall then be tested for conformity to the requirements given in 7.

NOTE — This is type test to be carried out by recognized testing laboratory and shall be conducted whenever there are changes in the design, materials manufacture and construction.

6.1.13 A type approval certificate shall be issued for pattern meters which satisfy the type approval test with the limits of tolerances.

6.2 Periodical Test

6.2.0 Routine tests to ensure compliance with the requirements of this specification are made on production taximeter which are copies of approved pattern meters. The following tests shall be carried out.

6.2.1 Bench Test (see 6.1.8)

6.2.2 Time Test (see 6.1.9)

6.2.3 Road Test (see 6.1.10)

6.3 Taximeter shall meet the following environmental requirements:

- a) Dry heat test for 16 hours at 70°C as given in IS 10236 (Part 2) : 1982;
- b) Damp heat test at 40°C, 95 percent relative humidity as given in IS 10236 (Part 4) : 1982;
- c) Vibration test with severity of 10 to 150 Hz with amplitude of 2 mm for a duration of 6 hours in accordance with IS 10236 (Part 11) : 1985; and

- d) Bump test for 1 000 bumps at 40 g along all the three axes as in IS 10236 (Part 10) : 1985.

7 TOLERANCES

7.1 Bench Test

Tolerances for bench test shall be as follows:

- a) On over registration : 1 percent, and
- b) On under registration : 1 percent with an added tolerance of 30 m whenever the initial interval is included in the interval test.

7.2 Road Test

During drive by distance, the maximum dispersion of indications shall not exceed:

- a) For the initial distance, 2 percent of the true value. However, for initial distance less than 1 000 metres, the dispersion may be up to 20 metres.
- b) For distance succeeding the initial distance, 2 percent of the true value.

7.3 Time Test

During drive by time, the maximum dispersion of indications shall not exceed:

- a) For the initial time, 3 percent of the true value. However, for initial time less than 10 minutes, this error may be up to 20 seconds.
- b) For time succeeding the initial time, 3 percent of the true value.

7.4 The tests shall be carried out under standard test conditions given in 6.1.10.1 such that the constant K of the taximeter differs by less than 1 percent from the characteristic number w of the vehicle on which it is mounted.

8 SEALING

8.1 The undermentioned parts of the taximeters

shall be so constructed that they can be sealed with lead or by marks of protection and guarantee:

- a) The case enclosing the internal mechanism of the taximeter,
- b) The case of adjusting device (if this device is outside the case of the taximeter), and
- c) The covers of electrical or mechanical devices forming the connection between the entrance of the taximeter and the corresponding part provided on the vehicle for alignment with the instrument including the detachable parts of the adjusting device.

8.2 A plate of approved size and pattern shall be attached to the taximeter gear box or to the taximeter itself in such a manner that it cannot be removed without either removing the seals affixed by the testing authority or opening the taximeter or taximeter gear box. The plate shall show in raised or sunken words and figures, the type of cab on which the taximeter is to be used.

These seals shall be such that all access to protected components particularly the components of adjustment, is impossible without damaging the seal.

9 MARKING

9.1 Taximeters shall be marked indelibly with the following:

- a) Indication of the source of manufacture,
- b) The constant K in rev/km or imp/km.

9.2 Every taximeter shall have places to permit affixation of marks of initial and periodical verifications.

9.3 In the vicinity of the windows of all indicating devices, the meanings of the values shown shall be given clearly, legibly and unambiguously.

9.4 The name or the symbol of the monetary unit shall be alongside the fare indication for the journey and the indication of extras to be paid.

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The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

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Branches : AHMADABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI HYDERABAD. JAIPUR. KANPUR. PATNA. TRIVANDRUM.	